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Apple Rust Can be Controlled

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Apple rust, a fungus disease of the apple, is on the increase in Wisconsin. This is true, especially with the Wealthy variety, which is highly susceptible to the rust.

FIG. I.—RED CEDAR*
Don't plant Wealthy apple trees anywhere near red cedars

As the Wealthy is one of the most valuable commercial varieties and has been widely planted in the state, it is doubly important that the disease be controlled. Apple rust is sometimes known as "cedar rust," because the fungus lives over the winter on the red cedar.

Because of its bearing on control, it is important to understand the relation of the rust to the apple and the cedar tree. Wherever the red cedar grows, the rust is likely to follow, especially if the Wealthy is planted. Where there is no red cedar there can be no rust.

Orchards can be kept free from apple rust by—

(1) choosing a site where no red cedars exist;
(2) cutting down and burning red cedars where they occur; or
(3) planting varieties that are resistant to rust.

Rust spots appear on the apple leaves in early summer. The spots at first are small and of a pale yellow color. They gradually enlarge until in mid-summer, they may be from a quarter to a half inch in diameter,

*The red cedar should not be confused with the common cedar or arbor vitae which is common in the central and northern swamps of the state.

and if abundant, run together so as to cover much of the leaf surface. The color changes in mid-summer from a pale yellow to a bright orange yellow and may become conspicuous by the development of reddish borders. In July and August, the spots thicken or puff out on the lower leaf surface and become studded with minute projections. These split open and discharge an abundant crop of spores, or "germs." These are carried by the wind to the red cedars. In severe cases the rusted apple leaves begin to fall in mid-summer. This weakens the trees. With such varieties as the Wealthy, the gradual death of the tree follows.

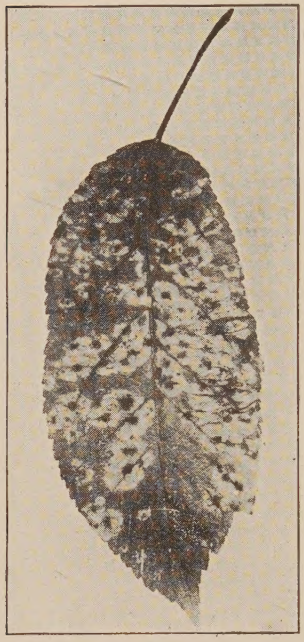

FIG. II.—RUSTED LEAF
The rust spots are bright yellow. In severe cases the leaves are killed and fall in mid-summer.

The rust disease appears on the red cedar as galls on the twigs. The spores from the rusted apple leaves fall on the cedar twigs. They start to grow at once and send root-like threads into the cedar. Here the fungus lives during the winter. The next summer the galls appear on the twigs. They are brownish in color, firm, roundish in shape, and from a sixteenth to an inch and a half or more in diameter. The galls are nearly smooth during their growth in summer and in early winter, but in the latter part of the winter they become pitted. (Fig. IV). During the warm days of spring the gall changes, each pit sending out a finger-like projection. When the rains come these projections swell, becoming soft, and jelly-like, and

FIG. III.—WEALTHY APPLES
One of the most valuable varieties grown in Wisconsin.

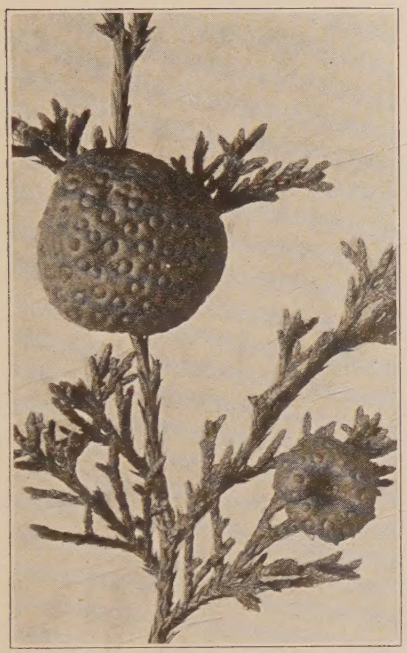

FIG. IV.—CEDAR GALLS

Apple trees in the vicinity of cedars showing such galls are in danger of rust. Cut and burn the red cedars and save the apples.

bright orange in color. Great numbers of spores are produced on them which are carried by the wind to the apple leaves. Here they germinate and in a week or ten days yellow rust spots appear. Orchards within one mile of red cedars are in danger of rust attacks.

The control of apple rust is difficult, because both the red cedar and the apple must be considered. Spraying apple trees has not given very satisfactory results.

The expense and uncertainty of spraying against rust makes this remedy impracticable except where the red cedars cannot be removed or resistant varieties planted. In such cases, repeated sprayings in May with Bordeaux or lime-sulfur mixture does some good.

Selection of varieties is important, because some are attacked by the rust much more than others. These varieties are susceptible to rust: Wealthy, Dudley, Jonathan, Peerless Sweet, Plum Cider, Sweet Wine, Whitney, and Yellow Bellflower. Fortunately a number of standard commercial varieties are very resistant and may well be selected for orchard planting when there is any danger from rust. These include the Fameuse,

FIG. V.—WHERE THEY MEET

Except in Door and Bayfield counties the orchard locations are in red cedar sections. The shaded areas on the map show the location of commercial orchards. The black spots indicate the distribution of the red cedars.

Mc Mahon, Oldenburg (Duchess), Red Astrachan, McIntosh, and Northwestern Greening. Varietal resistance should be considered when selecting nursery stock.

In locating an orchard choose a site near which red cedars do not grow. However some of Wisconsin's val-

FIG. VI.—CEDAR BRUSH READY FOR THE FIRE

A pile of red cedars cut from fields adjacent to a young Crawford County orchard which is shown in the background. This was cut in April and the cedar galls began to produce spores after cutting. Moral: burn promptly.

uable orchard land is located where cedars abound. In these localities, rust control will be increasingly important.

Removal of the red cedar, wherever practicable, is always the surest way to control apple rust.

Bulletin 257, Apple Rust and Its Control in Wisconsin, published by this station gives a more complete description of the disease and its control.

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